

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK  
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UNITED STATES OF AMERICA

- against -

11-CR-1032 (PAE)

FELIX LOPEZ-CABRERA,  
CARLOS LOPEZ, and  
LUIS BELTRAN

Defendants.

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JOINT DEFENSE SENTENCING SUBMISSION  
WITH RESPECT TO THE EXTENSION OF *MILLER* v. *ALABAMA*

This brief in aid of sentencing is submitted on behalf of the defendants Carlos Lopez, Felix Lopez-Cabrera, and Luis Beltran, who will each file individual sentencing memoranda in accordance with your Honor's individual practices. Imposing upon the defendants *mandatory* life sentences would violate the Eighth Amendment prohibition of "cruel and unusual punishments." In *Miller v. Alabama*, 132 S. Ct. 2455 (2012), the Supreme Court found it unconstitutional for a sentencing court to forgo an individualized assessment of a juvenile defendant's sentence and to impose upon a juvenile a mandatory sentence of life imprisonment. There is nothing in the reasoning behind the Supreme Court's holding that limits it to people under the age of eighteen. From a neurological perspective, the defendants' cognitive ability is as conditional on their age as it was for the defendant in *Miller*. Carlos Lopez was twenty-two years of age at the time of the three murders for which he faces a mandatory term of life imprisonment. Felix Lopez-Cabrera was eighteen and nineteen at the relevant times, and Luis Beltran was twenty-one. Developments in brain science tell us, and the Supreme Court in *Miller* acknowledged, that the defendants' ages

were well within a period of great change in the parts of the brain associated with risk assessment, impulse control, and emotional regulation. Accordingly, the Court must undertake an individualized assessment of the defendants' culpability and sentence him in accordance with that assessment.

## DISCUSSION

In 2012, the Supreme Court decided *Miller*. It is the latest in two lines of cases that recognize (1) that the capriciousness and diminished capacity of youth require special considerations for the sentencing of juvenile defendants and (2) the advisability, if not the necessity, of an individualized assessment of the defendant's culpability at sentencing.

### ***1. The Evolving View of the Diminished Moral Culpability of Adolescents***

The first line of cases began in 1988, when the Supreme Court categorically barred the execution of offenders under the age of sixteen because of their lack of maturity and responsibility. *Thompson v. Oklahoma*, 487 U.S. 815 (1988) (holding that the Eighth Amendment prohibits the execution of offenders under the age of sixteen). The Court has since prohibited the execution of any juvenile offender, *Roper v. Simmons*, 543 U.S. 551 (2005) (holding that "the death penalty cannot be imposed upon juvenile offenders"), and the imposition of a life-without-parole sentence upon a minor who committed a crime other than murder in which no one was killed, *Graham v. Florida*, 560 U.S. \_\_\_, 130 S. Ct. 2011 (2010). The latest development has been the Supreme Court's holding in *Miller*, which declared that even juveniles convicted of homicide cannot receive a *mandatory* sentence of life imprisonment and must receive a sentence based on considerations particular to the defendant. 132 S. Ct. at 2467, 2469.

Our knowledge of the brain and the tools to study it have advanced exponentially since 1988, and the Supreme Court has taken note. In the last decade alone, the Supreme Court has relied on brain science more confidently. Phrases like "lack of maturity" and "underdeveloped

sense of responsibility," *see Johnson v. Texas*, 509 U.S. 350, 367 (1993), have been replaced by citations to social science studies, *see Simmons*, 543 U.S. at 569 (citing Arnett, *Reckless Behavior in Adolescence: A Developmental Perspective*, 12 *Developmental Review* 339 (1992) and Steinberg & Scott, *Less Guilty by Reason of Adolescence: Developmental Immaturity, Diminished Responsibility, and the Juvenile Death Penalty*, 58 *Am. Psychologist* 1009, 1014 (2003)), and, finally, by studies from the hard sciences, like neuroscience, *see Miller*, 132 S. Ct. 2464-65 & n.5.; *Graham*, 130 S. Ct. at 2026 (citing amicus briefs from the American Medical Association and the American Psychological Association for the proposition that "parts of the brain involved in behavior control continue to mature through late adolescence"). As the Court indicated in *Miller*, the scientific support for this line of decisions has only strengthened with the passage of time. *Miller*, 132 S. Ct. at 2465 n.5.<sup>1</sup>

The Supreme Court has drawn the current line of brain immaturity at age eighteen. But the anatomical and neuroscientific circumstances that supported the prevailing argument in *Miller* do not stop at that age. In *Miller*, the Court was persuaded by evidence that the immaturity of adolescents' brains is responsible for their diminished cognitive abilities and executive functions and that this anatomical feature lessens their "moral culpability." *Id.* (quoting Brief for American Psychological Association et al. as Amici Curiae Supporting Petitioners 4, *Miller v. Alabama*, 132 S. Ct. 2455 (Nos. 10-9646, 10-9647)) ("It is increasingly clear that adolescent brains are not yet fully mature in regions and systems related to higher-order executive functions

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<sup>1</sup> *See generally* Brief for Robert M. Morgenthau et al. as Amici Curiae Supporting Petitioner, *United States v. Angel Alejandro*, S.D.N.Y. Apr. 4, 2014 (Nos. 98-CR-290, 13-CV-4364). Even though that case involved a young man who was under the age of eighteen when he committed the crime of conviction, Amici's brief provides an excellent overview of the science before and since *Miller*, much of which pertains to males of the defendants' age at the time of the murders of which he was convicted. Amici's brief and appendix are appended hereto as Appendices A and B, respectively.

such as impulse control, planning ahead, and risk avoidance.""). There is no consensus over when adolescence ends, which is a reflection of the fact that features of personality and anatomy mature at different rates in different people.<sup>2</sup> One of the last body parts to mature is the brain, especially the parts of the brain associated with risk assessment, impulse control, and emotional regulation. *See* Brief for the American Medical Association and the American Academy of Child and Adolescent Psychiatry as Amici Curiae in Support of Neither Party 20-23, *Graham v. Florida*, 560 U.S. \_\_ (2010) (Nos. 08-7412, 08-7621).

One region of the brain that is important to executive function is the prefrontal cortex, which is not fully developed until "late adolescence or beyond." *id.* at 23 ("Brain imaging data, supported by data gathered through the older autopsy technique, provides credible evidence that the prefrontal cortex is still developing well into adolescence and beyond and is among the last portions of the brain to mature. In other words, development of the region of the brain associated with voluntary behavior control (i.e., risk assessment, impulse control, and emotional regulation) is not complete until late adolescence or beyond."); *accord* Laurence Steinberg, *A social neuroscience perspective on adolescent risk-taking*, 28 *Developmental R.* 78 (2008), App. B at Bates 1229-57.

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<sup>2</sup> Attempts to fix limits on the beginning and end of adolescence have proven futile, as the variety of definitions in medical dictionaries shows. Compare *Adolescence Definition*, The American Heritage Medical Dictionary, <http://mcaf.ee/lkqm7> (last visited Apr. 16, 2015) ("The period of physical and psychological development from the onset of puberty to complete growth and maturity."); *with Adolescence Definition*, Dorland's Medical Dictionary for Health Consumers ("the period between puberty and the completion of physical growth, roughly from 11 to 19 years of age."); and *Adolescence Definition*, Mosby's Medical Dictionary, 8th ed. 2009 ("the period in development between the onset of puberty and adulthood. It usually begins between 11 and 13 years of age with the appearance of secondary sex characteristics and spans the teenage years, terminating at 18 to 20 years of age with the completion of the development of the adult form.").

An important development in the prefrontal cortex during this time is called myelination.

Temple University psychology professor Laurence Steinberg succinctly explains what myelination is:

[During adolescence,] there is an increase in white matter in these same regions, reflective of myelination, the process through which nerve fibers become sheathed in myelin, a fatty substance that provides a sort of insulation of the neural circuitry. Unlike the synaptic pruning of the prefrontal areas, which takes place [in] early adolescence, myelination is ongoing well into the second decade of life and perhaps beyond (Lenroot et al., 2007). *Improved connectivity within the prefrontal cortex should be associated with subsequent improvements in higher-order functions subserved by multiple prefrontal areas, including many aspects of executive function, such as response inhibition, planning ahead, weighing risks and rewards, and the simultaneous consideration of multiple sources of information.* In contrast to our findings with respect to basic information processing, which showed no maturation beyond age 16, we found continued improvement beyond this age in self-reported future orientation (which increased through age 18) and in planning (as indexed by the amount of time subjects waited before making their first move on the Tower of London task, which increased not only through adolescence but through the early 20s).

*Id.* at Bates 1245 (emphasis added). Myelination can be further delayed if the person's mother experienced regular moderate to severe stress while that person was *in utero*. Stress causes corticosteroids to be released, and repeated corticosteroid stimulation to a fetus has been shown to delay myelination in developing sheep. Sarah A. Dunlop, et al., *Repeated prenatal corticosteroids delay myelination in the ovine central nervous system*, 6 J. Maternal-Fetal and Neonatal Med. 309-13 (1997).

At the same time that the prefrontal cortex is maturing, the brain is forming better connections between cortical areas (like the prefrontal cortex) and subcortical areas. According to Prof. Steinberg:

This . . . anatomical change should be associated with improved coordination of affect and cognition, and reflected in improved emotion regulation, facilitated by the increased connectivity of regions important in the processing of emotional and social information (e.g., the amygdala, ventral striatum, orbitofrontal cortex, medial prefrontal cortex, and superior temporal sulcus) and regions important in cognitive control processes (e.g., the dorsolateral prefrontal cortex, anterior and

posterior cingulate, and temporo-parietal cortices). Consistent with this, we found increases in self-reported impulse control through the mid-20s (Steinberg, Albert et al., submitted for publication).

Steinberg, *A social neuroscience perspective on adolescent risk-taking*, App. B at Bates 1246.

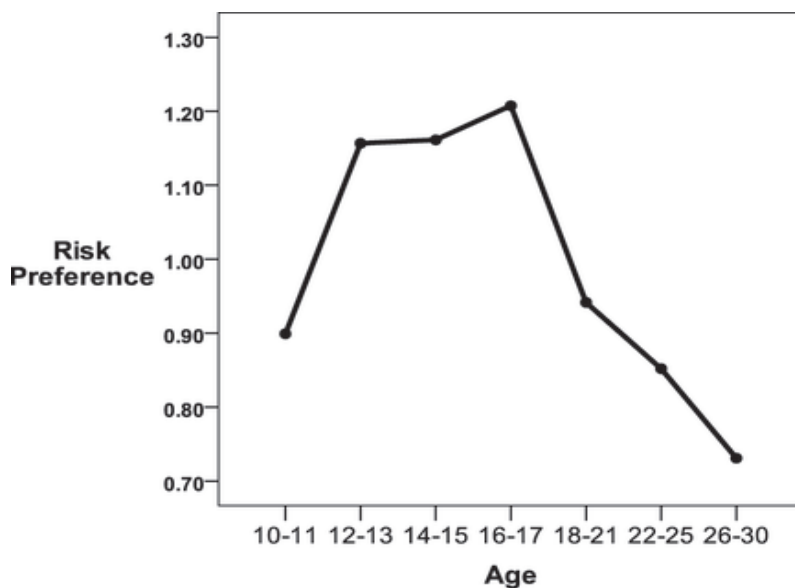
That these processes continue into a person's twenties leads to the unavoidable conclusion that

"age 18 does not suddenly mark complete transition to adulthood." Nat'l Research Council,

*Reforming Juvenile Justice: A Developmental Approach* 91 (Wash., D.C.: The Nat'l Academies

Press 2013), App. B at Bates 0747.

The type of impaired decision-making associated with adolescence persists into the mid-twenties, and then tapers off. *See* Dana Goldstein, "Too Old to Commit Crime?" *N.Y. Times*, Mar. 22, 2015, at SR4 ("Criminal careers are short for a number of reasons. Neuroscience suggests that the parts of the brain that govern risk and reward are not fully developed until age 25, after which lawbreaking drops off."). As a National Research Council report has concluded, "[t]he preference for risky behaviors rises by a third of a standard deviation between ages 10 and 16, and then it declines by a half standard deviation by age 26," as the following graph illustrates:



*Id.* at 92 fig.4-1.

The lack of executive control is more pronounced in *male* adolescents than it is in female adolescents. See M.R. Asato et al., *White Matter Development in Adolescence: A DTI Study*, Cerebral Cortex (Sep. 2010), App. B at Bates 0011-20 (reporting a study based on the MRI scans of over 110 people ranging in age from eight to twenty-eight). This accounts in part for "higher mortality in males due to risk-taking behavior and conduct disorders." *Id.* at Bates 0011; *see also id.* at Bates 0016 ("Males had a more protracted course with the majority of tracts continuing to develop into adulthood."). There is also evidence that adolescents are far more compelled by peer pressure to take risks and to behave in an antisocial manner than are adults. Steinberg, *A social neuroscience perspective on adolescent risk-taking*, App. B at 1242. The consensus view among brain researchers is that adolescence in males, in the context of risk-taking behaviors and self-control, extends into the twenties and, in many cases, into the mid- to late-twenties. Thus, there is no rational reason to draw a line of diminished moral culpability at age eighteen.

## **2. The Process that Miller Requires Extends to All Adolescents**

There is also support from *Miller* itself that the process that the Court prescribed in that case should not be arbitrarily limited. That aspect of *Miller* invokes the second line of cases that the *Miller* Court drew upon for support. The Eighth Amendment prohibits cruel and unusual punishment and "guarantees individuals the right not to be subjected to excessive sanctions." *Simmons*, 543 U.S. at 560. There are normally two classes of Eighth Amendment cases: (1) those that challenge a category of punishment and (2) those that challenge "the length of term-of-years sentences given all the circumstances in a particular case." *Graham*, 130 S. Ct. at 2021. *Miller* expressly was neither. *Miller*, 132 S. Ct. at 2471 ("Our decision does not categorically bar a penalty for a class of offenders or type of crime . . ."). Rather, the Court's decision "mandates

only that a sentencer follow a certain process — considering an offender's youth and attendant characteristics — before imposing a particular penalty." *Id.* The Court's decree was based on the cognitive limitations of adolescents, which is endemic to them. As demonstrated above, neurological immaturity does not end once a person reaches the age of eighteen. There is no rational or logical reason to limit *Miller's* procedural requirement to offenders under that age.

It is also morally unacceptable to an informed citizenry. Mandatory life imprisonment is the only federal penalty that does not provide for an individualized assessment of the defendant's relative culpability. Although this was a choice made by the elected branches, the denial of such an assessment can lead to severely imbalanced sentences. A life sentence here is far more arduous and inhumane given the defendants' age and life expectancy. The term of imprisonment could easily be sixty years, three times the median sentence for federal murder. U.S. Sentencing Comm'n, *2014 Sourcebook of Federal Sentencing Statistics*, Table 13 (2014), available at <http://www.ussc.gov/sites/default/files/pdf/research-and-publications/annual-reports-and-sourcebooks/2014/Table13.pdf> (showing that median sentence for murder among the federal courts in 2014 was 240 months). At the time that this sentencing scheme was passed, much less was known about the root causes of youthful capriciousness. We now know that young people, including people in their twenties, have brains that are much less able to control their emotions, their behavior and their resistance to peer pressure than they would have were they five or ten years older. "[W]hether or not a punishment is cruel and unusual depends, not on whether its mere mention 'shocks the conscience and sense of justice of the people,' but on whether people who were fully informed as to the purposes of the penalty and its liabilities would find the penalty shocking, unjust, and unacceptable." *Furman v. Georgia*, 408 U.S. 238 (1972) (Marshall, J. concurring) (explaining why capital punishment was "morally unacceptable" at that time in the



country's history). Few, if any, of the purposes of the penalty of *mandatory* life imprisonment – incapacitation, deterrence, retribution, rehabilitation – are served by imposing it upon people whose brains, were they fully developed, would likely have stopped them from engaging in the conduct that brought them into the criminal justice system.

### CONCLUSION

For the reasons set forth above, sentencing the defendants without the benefit of the Court's assessment of their relative culpability, their potential for rehabilitation, the length of their prison terms given their life expectancy, and the various other sentencing factors set forth in 18 U.S.C. § 3553(a) would violate their constitutional rights. Accordingly, the Court should

apply *Miller* and sentence each of the defendants according to what the Court finds, after careful consideration, to be a fitting and just sentence.

Dated: Brooklyn, New York  
May 22, 2015

Respectfully submitted,

/s  
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Law Offices of Susan G. Kellman  
Susan G. Kellman  
Ezra Spilke (Of Counsel)  
Izabel O. Garcia (Of Counsel)